

## **CLAIM AMENDMENTS**

Please replace the pending claims with the following listing of claims:

1. **(Currently Amended)** A semiconductor optical modulator having a layered structure in which a semi-insulating type cladding layer, a semiconductor optical waveguide core layer, and a semi-insulating type cladding layer are sequentially laminated on a substrate, ~~said semiconductor optical modulator characterized in that~~ wherein

a part of at least one of the semi-insulating type cladding layers including a surface opposite from a laminated surface with the semiconductor optical waveguide core layer is an n-type cladding layer, or all of at least one of the semi-insulating type cladding layers is an n-type cladding layer.

2. **(Currently Amended)** The semiconductor optical modulator according to claim 1, ~~characterized in that~~ wherein the modulator has a waveguide structure that is a high-mesa waveguide structure or a ridge waveguide structure.

3. **(Currently Amended)** The semiconductor optical modulator according to claim 1, ~~characterized in that~~ further comprising electrodes that are respectively connected to the n-type cladding layer or the semi-insulating type cladding layer placed directly on the substrate and to the n-type cladding layer or the semi-insulating type cladding layer including a surface opposite from a laminated surface with the semiconductor optical waveguide core layer laminated on the substrate, and voltage is applied.

4. **(Currently Amended)** The semiconductor optical modulator according to claim 3, ~~characterized in that~~ wherein the electrode electrodes are configured to be a coplanar waveguide line structure.

5. **(Currently Amended)** A semiconductor Mach-Zehnder type optical modulator ~~including comprising:~~

the semiconductor optical modulator according to claim 1,  
an optical splitter by which input light is split into two light beams, and  
an optical coupler by which light beams modulated by the semiconductor optical modulator are combined together.

6. **(Withdrawn)** A semiconductor optical modulator having a layered structure in which an n-type cladding layer, an optical waveguide core layer, and an n-type cladding layer are sequentially laminated on a substrate, ~~said semiconductor optical modulator characterized in that~~ wherein a semi-insulating type cladding layer is laminated between at least one of the n-type cladding layers and the optical waveguide core layer.

7. **(Withdrawn)** The semiconductor optical modulator according to claim 6, ~~characterized in that~~ wherein the modulator has a waveguide structure that is a high-mesa waveguide structure or a ridge waveguide structure.

8. **(Withdrawn)** The semiconductor optical modulator according to claim 6, ~~characterized in that~~ further comprising electrodes that are respectively connected to the n-type cladding layer or the semi-insulating type cladding layer placed directly on the substrate and to the n-type cladding layer or the semi-insulating type cladding layer including a laminated surface with the semiconductor optical waveguide core layer and said opposite surface laminated on the substrate, and voltage is applied.

9. **(Withdrawn)** The semiconductor optical modulator according to claim 8, ~~characterized in that~~ wherein the ~~electrode~~ electrodes are configured to be a coplanar waveguide line structure.

10. **(Withdrawn)** A semiconductor Mach-Zehnder type optical modulator characterized by including comprising:

- the semiconductor optical modulator according to claim 6,
- an optical splitter by which input light is split into two light beams, and
- an optical coupler by which light beams modulated by the semiconductor optical modulator are combined together.